



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/753,069	01/08/2004	Clifford J. Weber	00322.0008.CPU/S01	5428
22930                      7590                      10/31/2008 HOWREY LLP - DC C/O IP DOCKETING DEPARTMENT 2941 FAIRVIEW PARK DR, SUITE 200 FALLS CHURCH, VA 22042-2924				
			EXAMINER	
			PERRY, LINDA C	
			ART UNIT	PAPER NUMBER
			3695	
			MAIL DATE	DELIVERY MODE
			10/31/2008                      PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

## Application No.

10/753,069

## Applicant(s)

WEBER ET AL.

## Examiner

LINDA C. PERRY

## Art Unit

3695

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-110 is/are pending in the application.
- 4a) Of the above claim(s) 14-16,29-32,45,46,84-86 and 100-110 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13, 17-28, 33-44, 47-83 and 87-99 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 3/31/2005, 4/3/2006, 6/30/2006, 3/13/2007, 4/25/2008, and 6/26/2008
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_



### **DETAILED ACTION**

This application is responsive to application no. 10/753069 filed 1/18/2004. Claims 1- 110 were considered. Claims 14-16, 29-32, 45-46, 84-86, and 100-110 were canceled.

### ***Election/Restrictions***

Applicant's election without traverse of Group I in the reply filed on 08/15/2008 is acknowledged.

### ***Priority***

Applicants' claim to benefit of applications nos. 10/174505, 10/123779, 09/536663, 09/815589, 09536258 filed 06/17/2002, 04/16/2002, 03/27/2000, 03/23/2001 and 03/27/2000 respectively is acknowledged. Examiner notes that USPTO records indicate that 10/753069 is a continuation-in-part of 09/536258.

### ***Information Disclosure Statement***

The information disclosure statements filed 03/31/2005, 04/03/2006, 06/30/2006, 03/13/2007, 04/25/2008, and 06/26/2008 are being considered by the Examiner.

### ***Specification***

The disclosure is objected to because of the following informalities:

On page 36, Examiner respectfully suggests replacing "finding a the risk characteristics" by "finding the risk characteristics".

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1, 17, 47, 48, 54, 55, 60, 61, 74, 87, 88, 94, 99, and are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 17, 48, 55, 60, 61, 74, 88, 94, and 99 are methods for permitting efficient trading of shares of a fund and create a proxy portfolio having the same sensitivity coefficients. It is not clear how this method permits efficient trading of shares of a fund. Similar comments apply to the device of claim 33. Claim 47 and 87 only find fund sensitivity coefficients, and it is not clear how this method permits efficient trading of shares of a fund.

Claim 54 manipulates characteristics of a proxy universe and it is not clear how this method permits efficient trading of shares of a fund.

Claim 59 is a method comprising trading shares of a fund which calculates estimated value of a fund based on value of a proxy portfolio and it is not clear how this

method permits efficient trading of shares of a fund. Similar comments apply to claim 95, 97, and 98.

In all the above cases, Examiner respectfully suggests better linking the preamble to the body of the claims.

Furthermore, in claims 1, 17, 33, 55, 56, 57, 59, 60, 61, 74, 90, 94, 95, 97, 98, and 99, the extent of "substantially the same" is not clear.

#### ***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 87, 88, 94, 95, 97, and 98 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

These claims disclose methods, which are a patentable category of invention. However, based on Supreme Court precedent and recent Federal Circuit decisions, the Office's guidance to examiners is that a § 101 process must (1) be tied to another statutory class, such as a particular apparatus, or (2) transform underlying subject matter, such as an article or materials, into a different state or thing. If neither of these requirements is met by the body of the claim, the method is not a patent eligible process under § 101 and should be rejected as being directed to non-statutory subject matter.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Dembo (5799287, reference A4 on IDS of 4/25/2008).

Regarding claim 1, Examiner notes that the claim merely requires that the proxy portfolio not reveal the fund assets, does not require that the proxy portfolio be composed without knowledge of the fund assets.

Regarding claim 1, Dembo teaches *a method for permitting efficient trading of shares of a fund without revealing the fund assets, comprising: determining a set of risk factors from a risk factor model (see at least **column 5 lines 18-26**), receiving a set of fund sensitivity coefficients and storing the set of fund sensitivity coefficients on computer readable media, wherein each fund sensitivity coefficient specifies the exposure of the fund to one of the risk factors (see at least **column 5 lines 7-38, Figure 1, claims 1(c), 6(a)**), and using computer means to create a proxy portfolio having substantially the same sensitivity coefficients as the fund, wherein the proxy portfolio*

*does not reveal the fund assets* (see at least **column 2 line 44 – column 5 line 26, Figure 1, claim 11**).

Regarding claim 2, Dembo teaches *calculating an estimated value for the fund based on the value of the proxy portfolio* (see at least **claim 3**), *wherein the step of calculating the estimated value is repeated periodically throughout a trading period, and publishing the estimated value periodically throughout the trading period* (see at least **claims 6(d), 7, 10**).

Regarding claim 3, Dembo teaches *creating a hedging portfolio, wherein the hedging portfolio has substantially the same sensitivity coefficients as the fund* ((see at least **column 2 line 44 – column 5 line 26, Figure 1, claim 11, claims 1(c), 6(a)**)).

Regarding claim 10, Dembo teaches *selecting securities for a proxy universe, wherein the step of creating a proxy portfolio involves calculating weights of securities in the proxy universe* (see at least **column 5 lines 16-26 and lines 39-52, column 8 lines 25-column 12 line 61**).

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:



(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 1 is alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Connor et al. (Reference C2 on 4/3/2006 IDS, and further in view of Jameson (US 20040059621; wherein the paragraph cited is supported by 60/116785 of Jan. 21, 1999).

Regarding claim 1, Examiner notes that the claim merely requires that the proxy portfolio not reveal the fund assets, does not require that the proxy portfolio be composed without knowledge of the fund assets.

Regarding claim 1, Connor et al. teach *a method for permitting efficient trading of shares of a fund, comprising: determining a set of risk factors from a risk factor model (see at least pages 59-60), receiving a set of fund sensitivity coefficients (see at least*

**page 60)** and storing the set of fund sensitivity coefficients on computer readable media, wherein each fund sensitivity coefficient specifies the exposure of the fund to one of the risk factors (see at least **pages 59-60)** and using computer means to create a proxy portfolio having substantially the same sensitivity coefficients as the fund (see at least **pages 35- 36)** ,

Connor et al. do not teach the secrecy of the fund assets.

Jameson teaches *wherein the proxy portfolio does not reveal the fund assets; trading of shares of a fund without revealing the fund assets* (see at least ¶ **[0062]**, **[0147]-[0156]**).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught by Connor et al. the non-revelation of assets as taught by Jameson to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Claims 2 and 3 are thus alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Connor et al. (Reference C2 on 4/3/2006 IDS, and further in view of Jameson (US 20040059621), and further in view of Dembo (5799287, reference A4 on IDS of 4/25/2008).

Regarding claim 2, neither Connor nor Jameson teaches calculating an estimated value for the fund.

Dembo teaches *calculating an estimated value for the fund based on the value of the proxy portfolio* (see at least **claim 3**), *wherein the step of calculating the estimated value is repeated periodically throughout a trading period, and publishing the estimated value periodically throughout the trading period* (see at least **claims 6(d), 7, 10**).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught by the combination of Connor and Jameson the estimate as taught by Dembo to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Regarding claim 3, neither Connor nor Jameson teaches creating a hedging portfolio.

Dembo teaches *creating a hedging portfolio, wherein the hedging portfolio has substantially the same sensitivity coefficients as the fund* (see at least **column 4 lines 23-33, column 5 lines 18-21, claims 1(c), 6(a)**).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught by the combination of Connor and Jameson

the hedging portfolio as taught by Dembo to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Claims 4-6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dembo (5799287), and further in view of Applicants' specification, or alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Connor (Reference C2 on 4/3/2006 IDS, and further in view of Jameson (US 20040059621), and further in view of Applicants' specification..

Regarding claim 4 neither Dembo or neither Connor nor Jameson teaches an economic risk factor model.

Applicants' specification at page 21 makes it clear that this is a well studied art, and thus would have been known to a person having skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught by Dembo the economic risk factor model as taught by Applicants' specification to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of

ordinary skill in the art would have recognized that the results of the combination were predictable.

It would also have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught by the combination of Connor and Jameson the economic risk factor model as taught by Applicants' specification to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Regarding claim 5 neither Dembo or neither Connor nor Jameson teaches the risk factor.

Regarding claim 5, Applicants' specification at page 21 also makes it clear that this would have been known to a person having skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught by Dembo the risk factor as taught by Applicants' specification to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

It would also have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught by the combination of Connor and Jameson the risk factor as taught by Applicants' specification to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Regarding claim 6 neither Dembo or neither Connor nor Jameson teaches a statistical risk factor model.

Regarding claim 6, Applicants' specification at pages 26-27 also makes it clear that this would have been known to a person having skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught by Dembo the statistical risk factor model as taught by Applicants' specification to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

It would also have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught by the combination of Connor and Jameson the statistical risk factor model as taught by Applicants' specification to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Regarding claim 9 neither Dembo or neither Connor nor Jameson teaches risk factor model is a principal components analysis (PCA).

Regarding claim 9, Applicants' specification at pages 26-27 also makes it clear that this would have been known to a person having skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught by Dembo the PCA as taught by Applicants' specification to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

It would also have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught by the combination of Connor and

Jameson the PCA as taught by Applicants' specification to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Claims 7 and 8 are thus rejected under 35 U.S.C. 103(a) as being unpatentable over Dembo (5799287), and further in view of Applicants' specification or alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Connor et al. (Reference C2 on 4/3/2006 IDS, and further in view of Jameson (US 20040059621), and further in view of Dembo (5799287, reference A4 on IDS of 4/25/2008), and further in view of Applicants' specification.

Regarding claim 7 neither Dembo or neither Connor nor Jameson nor Dembo teaches a statistical risk factor model.

Regarding claim 7, Applicants' specification at pages 26-27 also makes it clear that this would have been known to a person having skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught by Dembo the statistical risk factor model as taught by Applicants' specification to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element



merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

It would also have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught by the combination of Connor, Jameson, and Dembo the statistical risk factor model as taught by Applicants' specification to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Regarding claim 8, neither Dembo or neither Connor nor Jameson nor Dembo teaches an economic risk factor model.

Regarding claim 8, Applicants' specification at page 21 also makes it clear that this would have been known to a person having skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught by Dembo the statistical risk factor model as taught by Applicants' specification to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of

ordinary skill in the art would have recognized that the results of the combination were predictable.

It would also have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught by the combination of Connor, Jameson, and Dembo the statistical risk factor model as taught by Applicants' specification to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Claim 10 is alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Connor et al. (Reference C2 on 4/3/2006 IDS, and further in view of Jameson (US 20040059621), and further in view of Applicants' specification.

Regarding claim 10, neither Connor nor Jameson teaches selection of securities for the proxy universe.

Applicants' specification at page 21 also makes it clear that this would have been known to a person having skill in the art at the time of the invention. In particular, Rosenberg (cited on page 22 of Applicants' specification) teaches *selecting securities*

*for a proxy universe, wherein the step of creating a proxy portfolio involves calculating weights of securities in the proxy universe (see at least **page 4**).*

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the as taught by the combination of Connor and Jameson the securities selection as taught by Applicants' specification to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dembo (5799287), and further in view of Applicants' specification, or alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Connor et al. (Reference C2 on 4/3/2006 IDS, and further in view of Jameson (US 20040059621), and further in view of Applicants' specification.

Regarding claim 11, neither Dembo or neither Connors nor Jameson teaches the specific method of calculating risk factors described.

Applicants' specification at pages 26-27 also makes it clear that this would have been known to a person having skill in the art at the time of the invention.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught by Dembo the specific calculation of risk

factors as taught by Applicants' specification to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable

It would also have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught the combination of Connor and Jameson the specific calculation of risk factors as taught by Applicants' specification to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable

Claim 11 is alternatively rejected and claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dembo (5799287), and further in view of Cheng et al. (Principal Component Estimators in Regression Analysis, May 1976); claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Connor et al. (Reference C2 on 4/3/2006 IDS), and further in view of Jameson (US 20040059621), and further in view of Applicants' specification, and further in view of Cheng et al (Principal Component Estimators in Regression Analysis, May 1976); claim 12 is alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Dembo (5799287), and

further in view of Applicants' specification, and further in view of Cheng et al (Principal Component Estimators in Regression Analysis, May 1976).

Regarding claim 11, Dembo does not teach the specific method of calculating risk factors described.

Cheng et al. teach *the risk factors are calculated by orthogonalizing a correlation matrix of returns functions of the securities in the proxy universe* (see **pages 1-7**).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught by Dembo the orthogonalization of a correlation matrix of returns as taught by Cheng et al. to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Regarding claim 12, neither Dembo or neither Connor et al. nor Jameson nor Applicants' specification or neither Dembo nor Applicants' specification teaches the measurement of exposure to risk factors including a linear least squares regression.

Cheng et al. teach *the step of measuring the exposure of the fund to the set of risk factors includes a linear least squares regression* (see **pages 1, 3**).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught by Dembo the linear least squares

regression as taught by Cheng et al. to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

It would also have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught by the combination of Connor et al. and Jameson the linear least squares regression as taught by Cheng et al. to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dembo (5799287), and further in view of Cheng et al. (Principal Component Estimators in Regression Analysis, May 1976) and further in view of Rosenberg et al. (Reference number 30 on 3/31/2005 IDS); claim 13 is alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Connor et al. (Reference C2 on 4/3/2006 IDS), and further in view of Jameson (US 20040059621), and further in view of Applicants' specification, and further in view of Cheng et al (Principal Component Estimators in Regression Analysis, May 1976) and further in view of Rosenberg et al. (Reference number 30 on

3/31/2005 IDS); claim 13 is alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Dembo (5799287), and further in view of Applicants' specification, and further in view of Cheng et al (Principal Component Estimators in Regression Analysis, May 1976), and further in view of Rosenberg et al. (Reference number 30 on 3/31/2005 IDS).

Regarding claim 13, neither Dembo or neither Connor et al. nor Jameson or Applicants' specification or neither Dembo nor Applicants' specification teaches the details of principal factor analysis in the claims.

Cheng teaches the steps in detail (see at least **pages 1-7**).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught by Dembo the details of the PCA as taught by Cheng et al. to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

It would also have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught by the combination of Connor et al. , Jameson, and Applicants' specification the details of the PCA as taught by Cheng et al. to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the

same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught by the combination of Dembo et al. and Applicants' specification the details of the PCA as taught by Cheng et al. to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Neither Dembo nor Cheng et al. or neither Connor et al. nor Jameson nor Applicants' specification nor Cheng et al. or neither Dembo nor Applicants' specification nor Cheng et al teaches repeating the factor analysis and sorting securities into groups.

Rosenberg et al. teach the repeated principal factor analysis and separation into 45 industry groups (see at least **pages 51-54**).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught by the combination of Dembo and Cheng et al. the sorting and repetition as taught by Rosenberg et al. to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.



It would also have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught by the combination of Connor et al., Jameson, Applicants' specification and Cheng et al. the sorting and repetition as taught by Rosenberg et al. to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught by the combination of Dembo, Applicants' specification, and Cheng et al. the sorting and repetition as taught by Rosenberg et al. to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Regarding claim 17, the same art and rationales used in rejecting claim 1, along with the **abstract and Figure 1** of Dembo apply.

Regarding claim 18, the same art and rationales used in rejecting claim 2 apply.

Regarding claim 19, the same art and rationales used in rejecting claim 3 apply.

Regarding claim 20, the same art and rationales used in rejecting claim 4 apply.

Regarding claim 21, the same art and rationales used in rejecting claim 5 apply.

Regarding claim 22, the same art and rationales used in rejecting claim 6 apply.

Regarding claim 23, the same art and rationales used in rejecting claim 7 apply.

Regarding claim 24, the same art and rationales used in rejecting claim 9 apply.

Regarding claim 25, the same art and rationales used in rejecting claim 10 apply.

Regarding claim 26, the same art and rationales used in rejecting claim 11 apply.

Regarding claim 27, the same art and rationales used in rejecting claim 12 apply.

Regarding claim 28, the same art and rationales used in rejecting claim 13 apply.

  

Regarding claim 33, the same art and rationales used in rejecting claim 17 apply.

Regarding claim 34, the same art and rationales used in rejecting claim 18 apply.

Regarding claim 35, the same art and rationales used in rejecting claim 19 apply.

Regarding claim 36, the same art and rationales used in rejecting claim 20 apply.

Regarding claim 37, the same art and rationales used in rejecting claim 21 apply.

Regarding claim 38, the same art and rationales used in rejecting claim 22 apply.

Regarding claim 39, the same art and rationales used in rejecting claim 23 apply.

Regarding claim 40, the same art and rationales used in rejecting claim 24 apply.

Regarding claim 41, the same art and rationales used in rejecting claim 25 apply.

Regarding claim 42, the same art and rationales used in rejecting claim 26 apply.

Regarding claim 43, the same art and rationales used in rejecting claim 27 apply.

Regarding claim 44, the same art and rationales used in rejecting claim 28 apply.

Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dembo (5799287, reference A4 on IDS of 4/25/2008), and further in view of Chan et al. (On Portfolio Optimization: Forecasting Covariances and Choosing the Risk Model, 1999) and is alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Connor et al. (Reference C2 on 4/3/2006 IDS, and further in view of Jameson (US 20040059621), and further in view of Chan et al. (ibid).

Regarding claim 47, the art and rationale used in rejecting claim 1 apply. However, neither Dembo or neither Connor nor Jameson explicitly teach calculating the fund sensitivity coefficients.

Chan et al. teach calculating fund sensitivity coefficients (see at least **pages 939-41, 950**). Examiner notes that the method of determining the fund sensitivity coefficients does not lead to revealing the underlying assets.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught by Dembo the calculation of the fund coefficients as taught by Chan et al. to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

It would also have been obvious to one of ordinary skill in the art at the time of the invention to include in the method as taught by the combination of Connor et al. ,

Jameson the calculation of the fund coefficients as taught by Chan et al. to realize the claimed invention since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Regarding claim 48, the same art and rationales used in rejecting claim 1 apply.

Regarding claim 49, the same art and rationales used in rejecting claim 2 apply.

Regarding claim 50, the same art and rationales used in rejecting claim 3 apply.

Regarding claim 51, the same art and rationales used in rejecting claim 4 apply.

Regarding claim 52, the same art and rationales used in rejecting claim 6 apply.

Regarding claim 53, the same art and rationales used in rejecting claim 9 apply.

Regarding claim 54, the same art and rationales used in rejecting claim 13 apply.

Regarding claim 55, the same art and rationales used in rejecting claims 1 and 10 apply.

Regarding claim 56, the same art and rationales used in rejecting claims 1, 2, and 47 apply. Examiner notes that at the time of the invention's priority date ETF funds tracked indices and the handling of creation of a proxy portfolio and the use of to estimate a value does not differ from the methods taught in the cited claim art and rationales because the fund is exchange-traded.

Regarding claim 57, the same art and rationales used in rejecting claim 1 apply.

Regarding claim 58, the same art and rationales used in rejecting claim 2 apply.

Regarding claim 59, the same art and rationales used in rejecting claims 1, 2, and 47 apply.

Regarding claim 60, the same art and rationales used in rejecting claims 1 and 2 apply.

Regarding claim 61, the same art and rationales used in rejecting claims 1, 2, and 3 apply. Examiner notes that the replication which yields a proxy and the replication which yields a hedging fund are similar methods and do not lead to revealing the fund assets.

Regarding claim 74, the same art and rationales used in rejecting claim 1 apply.

Regarding claim 75, the same art and rationales used in rejecting claim 2 apply.

Regarding claim 76, the same art and rationales used in rejecting claim 3 apply.

Regarding claim 77, the same art and rationales used in rejecting claim 4 apply.

Regarding claim 78, the same art and rationales used in rejecting claim 5 apply.

Regarding claim 79, the same art and rationales used in rejecting claim 6 apply.

Regarding claim 80, the same art and rationales used in rejecting claim 7 apply.

Regarding claim 81, the same art and rationales used in rejecting claim 8 apply.

Regarding claim 82, the same art and rationales used in rejecting claim 9 apply.

Regarding claim 83, the same art and rationales used in rejecting claim 10 apply.

Regarding claim 87, the same art and rationales used in rejecting claim 47 apply.

Regarding claim 88, the same art and rationales used in rejecting claim 1 apply.

Regarding claim 89, the same art and rationales used in rejecting claim 2 apply.

Regarding claim 90, the same art and rationales used in rejecting claim 3 apply.

Regarding claim 91, the same art and rationales used in rejecting claim 4 apply.

Regarding claim 92, the same art and rationales used in rejecting claim 6 apply.

Regarding claim 93, the same art and rationales used in rejecting claim 9 apply.

Regarding claim 94, the same art and rationales used in rejecting claim 1 apply.

Regarding claim 95, the same art and rationales used in rejecting claim 56 and 47 apply.

Regarding claim 96, the same art and rationales used in rejecting claim 2 apply.

Regarding claim 97, the same art and rationales used in rejecting claim 59 apply.

Regarding claim 98, the same art and rationales used in rejecting claim 1 and 2 apply.

Regarding claim 99, the same art and rationales used in rejecting claim 1 and 3  
Examiner notes that the replication which yields a proxy and the replication which yields a hedging fund are similar methods and do not lead to revealing the fund assets.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LINDA C. PERRY whose telephone number is (571)270-1466. The examiner can normally be reached on 8-5 alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Kramer can be reached on 571 272 6783. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stefanos Karmis/  
Primary Examiner, Art Unit 3693